	Application No.	Applicant(s)
Notice of Allowability	10/757,156	DEWITT ET AL.
	Examiner	Art Unit	
	J. Derek Rutten	2192	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *4/16/07*.

2. ☒ The allowed claim(s) is/are *1, 3-12, 14-17 (renumbered 1-15)*.

3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some*   c) ☐ None   of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

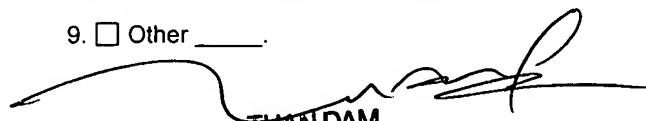   * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.

    (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached

        1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.

    (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

    Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date *3/29/07 and 4/16/07*

4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material

5. ☐ Notice of Informal Patent Application

6. ☒ Interview Summary (PTO-413), Paper No./Mail Date *20070619* .

7. ☒ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____.

TUAN DAM
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

1.   This action is in response to Applicant's submission filed 4/16/07, responding to the 1/16/07 Office action which detailed the rejection of claims 1-17. Claims 1, 6, 7, 9, 12, and 17 have been amended, and claims 2 and 13 have been canceled. Claims 1, 3-12, and 14-17 remain pending in the application and have been fully considered by the examiner.

EXAMINER'S AMENDMENT

2.   An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Gerald H. Glanzman, Reg. No. 25,035 on 6/19/07. In an earlier interview on 6/14/07, the Examiner indicated that patentable subject matter had been identified in a related case, and that an additional search had confirmed the allowable subject matter.

The application has been amended as follows:

--Begin Examiner's Amendment--

Amendments to the Claims:

Please amend claims 1, 7, and 12 as follows:

Listing of Claims:

1. (Currently amended) A method of autonomically reorganizing code of a computer program, comprising the steps of:

identifying a plurality of branch instructions for a computer program being compiled;

monitoring branch count per instruction statistics, wherein the branch count per instruction statistics are generated from the results of a set of hardware counters associated with the branch instructions that autonomically count branches taken, that are executed in parallel, per instruction of the computer program;

determining whether a block of code is to be reorganized based on a number of times a branch is taken per instruction, wherein the block of code comprises a set of instructions; and

in response to determining that a block of code is to be reorganized, locally reorganizing the block of code such that fewer branches are taken

7. (Currently amended) A computer system for autonomically reorganizing code of a computer program, comprising:

identifying a set of branch instructions for a computer program being compiled;

a set of hardware counters associated with the [[a]] set of branch instructions of the [[a]] computer program, wherein the hardware counters are used to <u>autonomically</u> generate branch count per instruction statistics <u>of the branch instructions that are executed in parallel</u>; and

a block of code including at least one branch instruction of the set of branch instructions; wherein the block of code is locally reorganized; and

wherein the branch count per instruction statistics comprise a number of times a branch is taken per instruction, and wherein the number of times a branch is taken per instruction is used to determine whether to autonomically reorganize a block of code.

12. (Currently amended) A computer program product in a <u>recordable</u> computer readable medium for autonomically reorganizing code of a computer program, comprising:

<u>first instructions for identifying a plurality of branch instructions for a computer program code being compiled</u>;

<u>second</u> ~~first~~ instructions for monitoring branch count per instruction statistics, wherein the branch count per instruction statistics are generated from the results of a set of hardware counters <u>associated with the branch instructions</u> that <u>autonomically</u> count branches taken per instruction of the computer program;

<u>third</u> ~~second~~ instructions for determining whether a block of code is to be reorganized based on a number of times a branch is taken<u>, that are executed in parallel,</u> per instruction, wherein the block of code comprises a set of instructions; and

<u>fourth</u> ~~third~~ instructions for, in response to determining that a block of code is to be reorganized, locally reorganizing the block of code such that fewer branches are taken.

--*End Examiner's Amendment*--

3.   The following is an examiner's statement of reasons for allowance:

The examiner indicated that this application would be in condition for allowance if the

independent claims 1, 7, and 12 are amended to include the features of "identifying a plurality of

branch instructions for a computer program being compiled...a set of hardware counters

associated with the branch instructions that autonomically count branches taken that are executed

in parallel." The above features, taken in combination with all remaining features of the

independent claim are not taught or suggested by the prior art of record. The applicant agreed to

amend the independent claims 1, 7, and 12 as indicated by the examiner. The subject matter of

the independent claims applies equally to all dependent claims. Thus all claims 1, 3-12, and 14-

17 are allowed.

Any comments considered necessary by applicant must be submitted no later than the

payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for

Allowance."

Response to Arguments

4.   The amendment to the specification has obviated the prior specification objection.

Therefore, this objection is withdrawn.

5.   The terminal disclaimer filed on 4/16/07 has obviated the double patenting rejection.

Therefore, this rejection is withdrawn.

6.   Applicants' arguments regarding the rejection of claims 12-17 under 35 U.S.C. 101 are

moot in view of the above Examiner's Amendment. The rejection has been withdrawn.

7.   The amendment to claim 6 has obviated the rejection under 35 U.S.C. 112. This rejection

has been withdrawn.

8.   The above Examiner's amendment has overcome the rejections under 35 U.S.C. 102 and

103. Thus, all remaining rejections have been withdrawn.

Conclusion

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to J. Derek Rutten whose telephone number is (571)272-3703. The

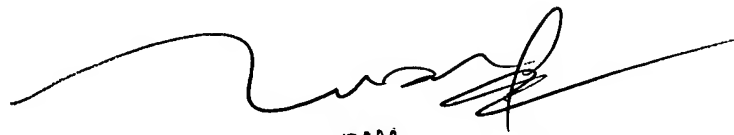examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Tuan Q. Dam can be reached on (571)272-3695. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated

information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

jdr

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SUPERVISORY PATENT EXAMINER